

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of : J. Szczyrbowski et al
For : INTERFERENCE LAYER SYSTEM

THIS IS CONTINUATION OF:

Serial No. : 08/959,633
Filed : October 28, 1997
Group Art Unit : 1753
Examiner : S. Versteeg

February 5, 2002

Hon Commissioner of Patents
and Trademarks
Washington, DC 20231

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Eileen Sheffield

Signature

Date

PRELIMINARY AMENDMENT

SIR:

Prior to prosecution, please amend the above-identified patent application as follows:

IN THE CLAIMS:

Cancel claims 1-21 without prejudice and add the following claims:

22. Method for sputter-induced deposition of metal oxide layers on substrates by means of a reactive sputtering process, wherein an electrical output is supplied to the plasma discharge acting on the sputter target to be sprayed by means of at least two electrodes arranged adjacent to one another in the plasma reaction space, which output is selected such that the metal oxide layers to be deposited on the substrate to be coated are deposited at a layer growth rate of ≥ 4 nm/s, the substrate to be coated being arranged during the coating process stationarily in relation to the target material to be sprayed, and in which the electrodes are connected electrically conductively to the outputs of an alternating current source, the

alternating frequency of the alternating voltage envisaged for the electrical supply to the plasma discharge being chosen between 10 kHz and 80 kHz.

23. Method for sputter-induced deposition of metal oxide layers on substrates by means of a reactive sputtering process, wherein the oxide layers to be deposited on the substrate to be coated are deposited at a layer growth rate of ≥ 40 nm m/min, the substrate to be coated being moved along in front of the target material to be sprayed, and in which the electrodes are connected electrically conductively to the outputs of an alternating current source, the alternating frequency of the alternating voltage envisaged for the electrical supply to the plasma discharge being chosen between 10 kHz and 80 kHz.

24. Optically acting layer system, arranged on substrate surfaces and produced according to claim 22, which has a layer sequence of individual layers consisting in each case of low-refracting or high-refracting material, the individual oxide layers being deposited on the substrate surface to be coated by means of a sputter-induced spraying and deposition process carried out in vacuum chamber, and the sputter plasma being provided by means of an alternating voltage applied at the plasma electrodes, wherein the predominant part of the oxide layer has a rutile structure and the alternating frequency of the alternating frequency of the alternating current supplying the sputter electrodes comes to between 10 kHz and 80 kHz.

25. Optically acting layer system, arranged on substrate surfaces and produced according to claim 23, which has a layer sequence of individual layers consisting in each case of low-refracting or high-refracting material, the individual oxide layers being deposited on the substrate surface to be coated by means of a sputter-induced spraying and deposition process carried out in vacuum chamber, and the sputter plasma being provided by means of an alternating voltage applied at the plasma electrodes, wherein the predominant part of the oxide layer has a rutile structure and the alternating frequency of the alternating current supplying the sputter electrodes comes to between 10 kHz and 80 kHz.

26. Layer system according to claim 24, wherein the metal oxide layers are deposited on the target arranged statically in relation to the sputter cathode at a deposition rate of ≥ 4 nm/s.

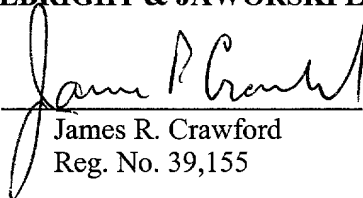
REMARKS

Please enter this amendment.

Respectfully submitted,

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Enclosures

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